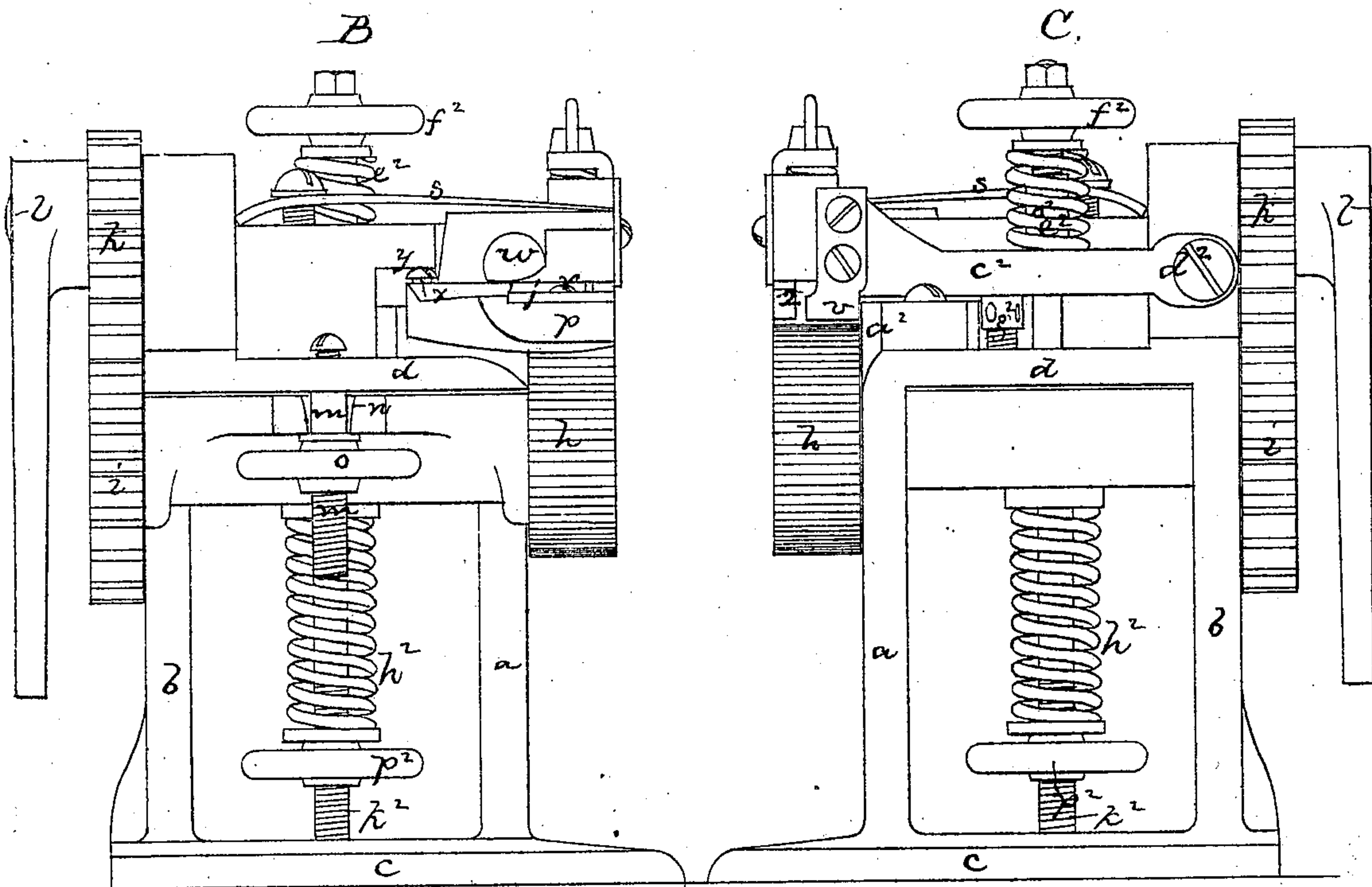
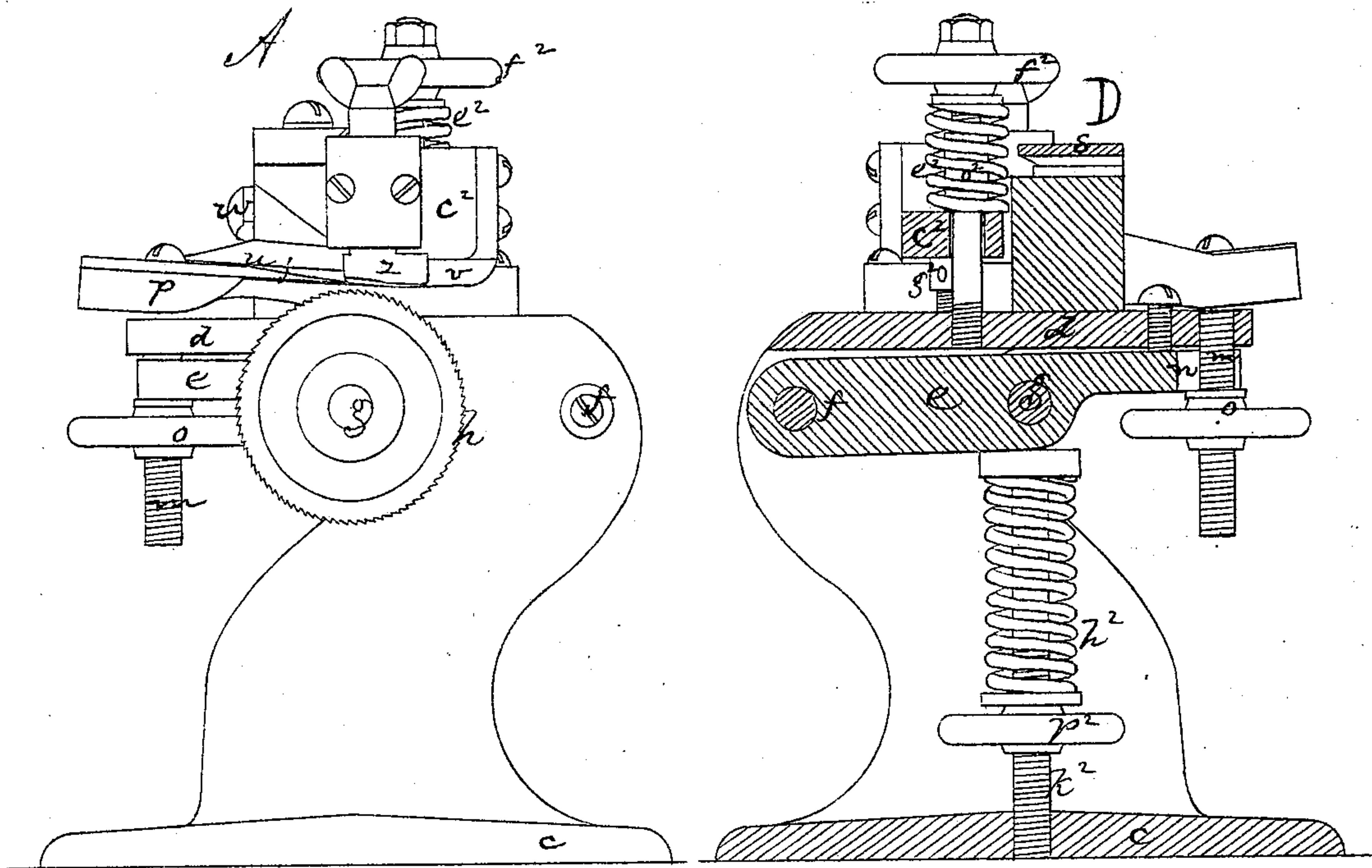


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Machine for Skiving Boot and Shoe Counters.

No. 124,098.

Patented Feb. 27, 1872.



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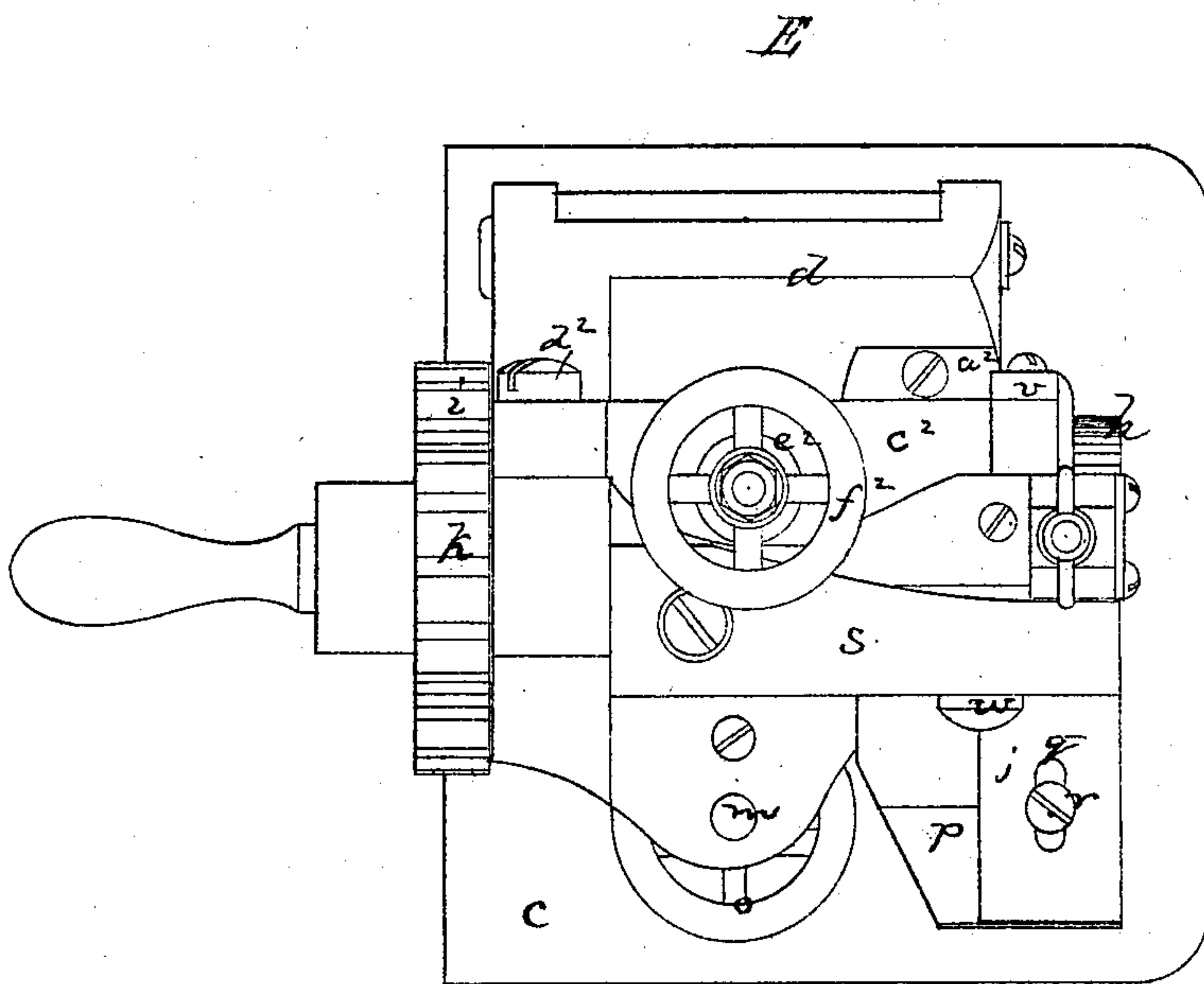
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# UNITED STATES PATENT OFFICE.

HENRY S. VROOMAN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR SKIVING BOOT AND SHOE COUNTERS.

Specification forming part of Letters Patent No. 124,098, dated February 27, 1872.

*To all whom it may concern:*

Be it known that I, HENRY S. VROOMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Machines for Skiving Boot and Shoe Counters, &c.; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to the organization of machines for skiving counters, &c.; and consists principally in so hanging or pivoting a skiving-knife to the frame of the machine near the edge-guide, that the point or outermost end of the cutting-edge of the knife shall automatically rise or fall proportionately to the thickness of the material being cut, while the inner portion of the knife remains vertically the same; in a provision for readily varying the width of the scarf; and in certain details of construction or organization of the mechanism.

The drawing represents a machine embodying my improvement. A shows the machine in front elevation. B and C are opposite side elevations of it. D is a vertical section. E is a plan of it.

*a b* denote two uprights, extending from a bed-plate, *c*, and having at top a cross-plate, *d*, integral with them. Under one side of this plate an arm, *e*, is pivoted, as seen at *f*, this arm extending under the plate, and having journaled in its front part a shaft, *g*, carrying at one end a toothed feed-wheel, *h*, and at its opposite end a gear, *i*, driven by a pinion, *k*, on a crank-handle shaft, *l*. From the under side of the plate *d* (at the free or movable end of the arm *e*) a screw-pin, *m*, extends down through a slot, *n*, in the arm, and under this slot is a nut-threaded wheel, *o*, working on the screw-pin. By turning the wheel upon the screw the arm *e* is forced up toward the plate *d*, and with it the shaft *g* and feed-wheel *h* to any desired distance from the cutting-edge of a skiving-knife or cutter. This cutter is immovably fastened to a stock or block, *p*, the cutter having a slot, *q*, through which the attaching-screw *r* passes; but this slot being only to permit the cutting-edge to be set further forward as it is ground away in shaping, or to compensate for wear, so as to maintain it in the same

relative position to the top point of the feed-wheel. The inner edge of the cutter shank may set in a groove, *n*, to keep the inner end of the cutting-edge in position, and the edge of the material to be skived is fed over the top of the wheel *h*, and between the wheel and a presser-foot, *v*, the wheel presenting the leather to the action of the knife. The stock *p* is hung upon a screw-pin or pivot, *w*, at such distance above and in such relation to the vertical line of the inner extremity of the cutting-edge of the knife, that when the outer end of the knife is raised or lowered by the stock swiveling upon the pin *w*, the distance between the inner portion of the cutting-edge of the knife and the feed-wheel *h* remains the same. An adjustable foot or gauge, *z*, (adjustable vertically by suitable mechanism) is attached to the front portion of the stock *p*. This gauge *z* rests upon the material being skived and determines the elevation or depression of the outer end of the knife. This gauge *z* is made to bear downward by the stress of a stout spring, *s*, upon the upper surface of the material, and as the knife and gauge are both attached to the stock or block *p*, the vertical adjustment of the gauge will raise or lower the outer portion of the cutting-edge of the knife and determine the width of the scarf. The lowest extremity of movement of the outer portion of the cutting-edge of the knife is determined by a set-screw, *x*, the top of the screw striking the shoulder *y*. Behind the gauge *z* and in front of the edge guide or ledge *a*<sup>2</sup> is a presser-foot, *v*, the vertical shank of which is fastened to the front of an arm, *c*<sup>2</sup>, pivoted at its rear end to the main frame by a pin, *d*<sup>2</sup>. This arm is held down so as to cause the presser-foot *v* to act upon the material by the stress of a spring, *e*<sup>2</sup>, which is made to operate downward upon the arm by means of a hand-wheel, *f*<sup>2</sup>, bearing on its upper end, the wheel *f*<sup>2</sup> having a thread in it and working upon a screw-bolt that passes down through the spring and is fastened at the lower end to the frame of the machine.

It will thus be seen that a counter, when put in between the feed-wheel and presser-foot, is fed up to the action of the knife and a uniform thickness of skived edge is produced, and a uniform width of scarf is obtained upon all thicknesses of stock or material; and also the thickness of the skived edge of the counter



may be varied by turning up or down the nut-threaded wheel  $o$  upon the screw-pin  $m$ , varying the relation or distance between the knife and the lower feed-wheel. Now, to reverse the action of this machine so as to cause a uniform thickness of skiving to be taken from the grained or hair side of the counter, the presser-foot  $v$ , attached to the arm, is adjusted by means of the set-screw  $g^2$  to the desired distance above and from the edge of the knife, and the nut-threaded hand-wheel  $f^2$  is then turned down on the screw-bolt until it strikes the vertical sleeve-tube  $o^2$  situated between the inner surface of the spring  $e^2$  and the central screw-bolt, and having its lower end resting upon the arms  $c^2$ . The presser-foot is thus made immovable, and its vertical distance above the edge of the knife determines the thickness of the skiving taken from the counter, while the lower feed-wheel is released and converted into a presser-wheel, by turning the threaded hand-wheel  $o$  downward from the arm  $e$ , and then turning up the threaded hand-wheel  $p^2$  on the spindle  $h^2$ , so as to bring the stress of the spring  $h^2$ , acting from the bed of the machine, up against the arm.

It will thus be seen that through the combination of parts, as shown, boot-counters may first have the tender-grained surface removed, which is generally desirable, so as to produce a thin edge of a stronger substance; and then by reversing the action of the machine, as shown, and introducing the counter flesh side up, a skiving is taken from the other side so as to leave a uniform thickness of edge. This same result may be produced by having the lower feed-wheel and the knife affixed to the lower part of frame of the machine, and in a fixed relation to each other, so as to chamfer the counter (or other article) to a uniform thickness of edge; and then by removing the knife and attaching it to the arm in a fixed

relation to the presser-foot, allowing both the knife and the presser-foot to follow the inequalities of the thickness of the material, causing the knife to remove a skiving of a uniform thickness. But the specific arrangement shown obviates the necessity of changing the position of the knife.

Instead of using the upper presser-foot alone (performing the double office of feeding and holding the material down in front of the knife to insure cutting a uniform thickness of edge) a narrow upper feed-wheel can be used in combination with and occupying a portion of the space of the presser-foot to produce a greater amount of feed-power. In such an arrangement the upper feed-wheel could be driven upon a shaft, connected by gearing, from the rear end of the lower feed-wheel shaft.

I claim—

1. In a machine for skiving boot-counters or other articles having, in combination, a lower feed-wheel and a presser-foot, a swiveling skiving knife or cutter hung to the frame, substantially as described.

2. In combination with the cutter attached to the pivoted holder or stock, a gauge-foot,  $z$ , arranged to operate substantially as described.

3. In combination with a pivoted skiving knife or cutter, an adjustable lower feed or presser wheel, substantially as described.

4. In combination with a pivoted skiving knife or cutter, an adjustable lower feed or presser wheel and an adjustable upper presser,  $v$ , each arranged so that it may act upon the stock by spring pressure, or may be made stationary with relation to the knife or cutter, substantially as described.

HENRY S. VROOMAN.

Witnesses:

FRANCIS GOULD,  
M. W. FROTHINGHAM.